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ABSTRACT

The literature regarding the provision of in-service education is reviewed to: (1) provide brief definitions of rural school districts and in-service education; (2) discuss the importance of in-service education; (3) explore the difficulties associated with in-service education in rural areas, along with possible remedies; and (4) examines various approaches for providing in-service training to special education teachers in rural areas. An overview of the basic principles underlying in-service education is followed by a delineation of 15 assumptions upon which in-service education is based. The theories of planned change and Malcolm Knowles's theory of andragogy are described. The following major difficulties encountered when providing in-service education to special education teachers in rural areas are explored: insufficient funding; lack of program relevance; absence of incentives to participate; scheduling difficulties; distance; insufficient teacher motivation; inadequate follow-up; absence of evaluation; and feelings of threat which may be experienced by participants. Approaches for providing in-service education programs are classified into college and university programs, state and regional programs, school based programs, teacher center programs, teacher exchanges, and consultant programs. Each category is evaluated in terms of the difficulties associated with in-service education and adherence to the components of a proposed in-service model. (NQA)

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IN-SERVICE EDUCATION
for
SPECIAL EDUCATION TEACHERS
in
RURAL AREAS

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Because of the isolation of special education teachers in rural areas, delivery of effective in-service programs through traditional means is restricted. If we are to assist special education teachers in this area, then we must look to other types of in-service programs. The purpose of this paper, therefore, is to examine current models for in-service programs for special education teachers in rural areas and to make recommendations which address the difficulties inherent in some of these models.

Two events have prompted a focus on in-service programs for special education teachers in rural areas: the Federal legislation and court cases surrounding education for the handicapped; and the concurrent resurgence of interest in rural education. Passage of the Education for All Handicapped Children Act of 1975 (PL94-142) brought national attention to the plight of the handicapped. Because of this law, the handicapped child can no longer be denied a free appropriate public education. Consequently, there has been an increasing demand for special education teachers as well as a need for retraining practicing personnel. Public Law 94-142 requires each state to have a comprehensive system of personnel development which includes in-service education.

A second reason for the surging interest in rural education is the migration of people from urban to rural areas. Consequent-

ly, rural issues have begun to emerge such as: advantages and disadvantages of rural schools; differences between urban and rural areas; and the difficulties associated with special education in rural areas including the need for in-service training for the special education teacher.

This paper is divided into four sections. The first provides brief definitions of rural school districts and in-service education. The second focuses on the importance of in-service education. The third explores difficulties associated with in-service education in rural areas along with possible remedies. The fourth section examines a variety of approaches for providing in-service training to special education teachers in rural areas.

SECTION I: DEFINITIONS

Rural School Districts

Over two-thirds of the school districts in the United States are located in non-metropolitan areas (Peters, 1975) and over one-third of all students attend rural schools (Sher, 1977). However, no universally accepted definition as to what constitutes a rural school district exists. Peters defines a rural school district as one with a student body population of less than 2500 pupils. Yet in a publication by the Southwest Education Development Laboratory (1980) a rural school district is defined as being located in a community of less than 2500 people and having a student body of less than 500 students in grades kindergarden through twelve. Helge (1980) uses an area with a population of less than 150 inhabitants per square mile, or districts located in counties with 60% or more of the population living in communities of less than 5,000 inhabitants as her criteria. Districts with more than 10,000 students or those with a Standard Metropolitan Statistical Areas as determined by the census bureau are excluded. Whatever the numbers, all seem to agree that rural school districts generally have the following characteristics; sparse population, lack of wealth, poor road conditions, and considerable distance from any major city.

In-Service Education

In-service education also has no universally accepted definition. Edelfelt and Johnson (1975) define in-service education

as any professional development activity which a teacher undertakes either singly or with other teachers after receiving his or her initial teaching certificate and after beginning professional practice. Johnson et. al. (1975) define in-service as activities planned for and/or financially sponsered by the school system to increase teacher competencies and improve the school system. Brandt and Olson (1980) define in-service as a process designed to foster personal and professional growth for the individual within a respectful supportive organizational climate whose ultimate goal is better learning for students and continuous, responsible, self-renewal for teachers and schools. Still another definition of in-service education (Lavin, 1975; Mesa, 1976) is teacher training based upon assessments that reveal needs. Hence, for purposes of this paper in-service education shall be defined as any personnel or professional development activity undertaken either singly or with other teachers after obtaining an initial teaching certificate and beginning professional practice whose ultimate goal is better learning for students and continuous, responsible, self-renewal for educators and schools.

SECTION II: THE IMPORTANCE OF IN-SERVICE EDUCATION

In-service teacher education has been in existence since the 1800's. Thus, as might be expected, a vast body of literature has emerged regarding in-service education. The majority of this literature describes existing programs and is not research oriented. It concentrates on specific skills, rather than the methods and rationale for in-service education. The majority of these articles review the literature, give opinions, and describe the program. Hutson (1981) believes that the lack of hard research may be due to the nature of in-service education which is viewed as a complex process with broad-based goals, long range results, and a large differentiated population. What research does exist, Hutson declares, is usually done locally, lacks external validity, and fails to be disseminated.

Hutson views the current state of in-service practice as deplorable. He argues that the term in-service itself along with the meager body of hard research present major obstacles in achieving effective in-service education practices. Hutson further declares that in-service education is lacking in broad based conceptualizations. Dillon-Peterson (1981) states that a broad scheme and clear concept of purpose with appropriate policies, legitimate commitment and fixed responsibility for in-service education has never existed. Without a clear concept of the nature and function of in-service education, it comes as no surprise that in-service education is viewed negatively by many of the teachers who are ex-

pected to participate in these programs

If in-service education is to be effective, a coherent theory and systematic framework are essential. In an attempt to devise such a framework, this section of the paper will be divided into four sections. In the first section, several of the basic principles underlying in-service education will be explored. In the second section, several of the major assumptions upon which in-service education is based will be delineated. In the third section two theories which relate to in-service education will be described. In the fourth section, an attempt will be made to synthesize the above information into a model delineating the major components deemed necessary for a comprehensive in-service education program.

Basic Principles of In-Service Education

In-service education is viewed as an integral part of teacher education (Coulter et. al. 1975, p. 6) as it provides a means by which educators can keep abreast of new knowledge and technology (Brandt and Olson, 1980, p. 59). As Fox (1956, p. 48) asserts, teachers feel the need to be continually improving and expanding their skills in working with students. Rubin (1971, P. 21) supports this need based upon the assumption that it is often necessary to remediate the skills of teachers who either lack adequate pre-service training or who have been away from formalized training for an extended period of time. Peters (1975) asserts that in-service education is meant to provide teachers with quality

training which creates an awareness of new techniques, develops skills, and provides a means of social interaction including a way for teachers to exchange ideas. Edelfelt and Johnson (1975) believe that in-service programs provide a means for enabling professional growth which in turn assists the teacher to become as effective as possible in instructing his students.

The law has mandated in-service regarding special education. Yet, the provision of effective in-service programs continues to pose difficulties. In rural areas, these difficulties are intensified according to Sher (1978, p. 28) due to the overwhelming need to revitalize and upgrade the quality of the teachers. This can partially be attributed to the difficulty obtaining qualified staff as well as to the vast difference between the theory taught in teacher training programs and the application of these theories in the rural classroom. In special education, in-service training assumes critical importance as over one-third of the teachers serving handicapped students in rural areas have no special education training and therefore lack proper certification (Rehmann and Latini, 1979). Beatty (1981, p.10) points out that the desire for a project model or step-by-step user's guide to the design and delivery of a comprehensive system of personnel development has led to many "user's guides". Unfortunately, these guides rarely constitute a fully generalizable in-service prototype. Thus such a prototype continues to remain elusive.

Assumptions

In-service education is based upon a variety of assumptions. Each writer chooses those assumptions which best accomodate the basic principles chosen. For this paper, 15 assumptions have been identified as prerequisites for an effective in-service program.

1. All personnel to stay current and effective need and should be involved in in-service education (Dillon-Peterson, 1981).

2. Staff can and will grow beyond the minimum competencies expected of initial employees (Harris, 1980).

3. People learn best those things percieved as meaningful, purposeful and satisfying (Harris, 1980; Rubin, 1978).

4. Adults learn best when they feel they have control over the situation and a supportive emotional climate free from fear of failure is provided (Dillon-Peterson, 1981; Henry, 1957; Patel, 1968).

5. People view each projected learning experience as appropriate-or not based upon an internal frame of reference. Each person has developmental, situational, and personal needs to satisfy (Harris, 1980; Rubin 1978).

6. Educators differ in their competencies, readiness, and approach to learning. These differences must be accounted for in proposed in-service programs (Beegle and Edelfelt, 1977; Dillon-Peterson, 1981; Henry, 1957; Rubin, 1971).

7. People can and will learn on the job. However, feedback

is necessary to aid in using this type of learning effectively (Harris, 1980).

8. Intrinsic satisfaction will help teachers and make them want to grow. Hence, direct intervention is needed to accomplish some, but not all, learner outcomes (Harris, 1980; Rubin, 1971).

9. Learning does not satisfy all needs, only some (Harris, 1980).

10. People must learn for long term survival, but can cope, resist, or endure in the short run (Rubin, 1971).

11. People work as individuals and members of groups as they see problems which are of significance (Henry, 1957).

12. Change in educational practice is the result of systematic, long range, staff development (Dillon-Peterson, 1981).

13. Professional growth requires personal and group commitment (Dillon-Peterson, 1981).

14. Schools need to provide resources and educational leadership for in-service education (Dillon-Peterson, 1981).

15. In-service education should be based upon research, theory, and best practices models (Rubin, 1971).

To summarize, in-service education is essential if our schools and educational personnel are to remain effective in a changing society. However, teachers, like students, differ in many ways. They differ in terms of initial training, developmental level, frame of reference, and learning style. Consequently, in-service education programs must provide a range of opportunities from which

educational personnel may freely choose.

Two Theories Related to In-service Education

The need for a conceptual and theoretical framework for in-service education is mentioned many times throughout the literature. Two theories; planned change and Malcolm Knowles theory of andragogy emerge as relevent to the in-service endeavor. A brief review of each ensues.

Planned Change. Harris and Bessent (1969) believe that the intent of in-service education programs is to change instructional practices by changing people. For them, in-service education is but one of several organizational changes which occur through a program of personnel development. Thus, in-service education is part of a planned change process which takes place in an organizational context.

Bennis, Benne, Chin and Corey (1976, p.4) define planned change as a "conscious, deliberate and collaborative effort to improve the operations of a human system." They view planned change as a process by which change is created, implemented, evaluated, maintained, and resisted. Bennis, Benne, Chin, and Corey believe that "innovation in any area begins when one or more people perceive that a problem exists, that change is desireable and that it is possible." (p.120) As Lippit et. al. (1958) explain, the perception that a problem exists may arise due to (1) " a perceived discrepancy between what is and what might be"; (2) external pressure "brought to bear upon the client system to make

it change its behavior"; or (3) some "internal requiredness" which sets up "pressure toward change". For the change process to "produce a maximum effect," they believe that "the client system must feel that it, rather than the change agent, has taken the responsibility for the first step " (p.75) because, as Bennis et. al. indicate, "people resist change, even of a kind they basically agree with, if they are not significantly involved in the planning." (p. 227) Hence as Bennis (1966) believes "a deliberate and collaborative relationship can be optimized in a planned change induction only when the following exists:

1 A joint effort that involves mutual determination of goals
2 A "spirit of inquiry"-a relationship that is governed by data publically shared
3 A relationship growing out of the mutual interaction of the client and change agent
4 A voluntary relationship between the change agent and the client, with either free to terminate the relationahip after joint consultation
5 A relationship where each party has equal opportunities to influence the other" (p.92).

For Bennis et. al. (1976, p. 413) the model for planned change consists of five steps: "the establishment of an objectively defined set of goals; the statement of all possible alternative courses of action to attain these goals; the evaluation of those courses of action in terms of their efficiency; the selection of

that alternative which most nearly optimizes the set of goals; and finally the assessment of that action, once implemented, in terms of its actual effects on the overall structure." In addition they believe that the process of learning and changing should be: experimental; collaborative; oriented toward the requirements of the confronting task and situation; educational for all participants; make full use of all available, relevant and validated information and experience; deeply respectful of personal and group uniqueness and identity; and self-evaluative, self-coorecting, and self-renewing. (p.50)

Patel (1968) asserts that in-service education as a change process is based upon the following assumptions: education is a lifelong process; pre-service education is inadequate for a lifelong career of teaching; in-service improves the quality of education; and change is imperative to improve teacher competencies. Rubin (1971) believes that for change to be effective it must be; school based, incremental, and supported at the administrative level.

In the past, in-service education has been allowed to meander in all directions at an unsteady pace. Consequently, the effectiveness of in-service programs and the adoption of innovations has been questionable at best. Harris and Bessent (1969) assert that for change to be effective and durable, it must be planned. Planned change implies an intent to intervene on the part of the organization. In addition, they view in-service education as an instrument

for organizational change. Harris and Bessent believe that if the principles of planned change were used, in-service education would become a repetitive process and part of the school districts standard operating procedure.

Use of planned change implies a change agent. Rubin (1978) asserts that the teacher himself should be viewed as the key change agent. Rubin believes that teachers will not change simply because they they are told to do so. Rather, for change to occur, teachers must be allowed to define their own problems, delineate their own educational needs, and receive assistance on their own terms. Hence, as Dillon-Peterson (1981) avers, in-service education must become a voluntary, cooperative, relevant, well-planned, developmental process whose effectiveness is evaluated to ensure that the desired change is occuring.

Adams (1974) states that for change to occur, the targets of the change process must perceive a need to change. Without a felt need, any effort to produce change will be doomed to failure. Furthermore, as Westby-Gibson (1966) explains, for change to be effective the targets of the change process must participate in the planning process. In addition, for maximum effectiveness, an atmosphere of respect and trust is needed. Westby-Gibson believes that the programs offered should be practical, skill oriented, and address individuals as holistic entities. As Henry (1957) asserts if program planners and participants locate knowledge gaps, systematically plan and execute meaningful experiences and research the

effectiveness of the program developed, then and only then will in-service education programs prove successful.

Andragogy. Malcolm Knowles (1973) puts forth a theory of adult learning based upon the principles of adult development. His theory is based upon four assumptions and seven elements which will now be explored.

The four assumptions upon which andragogy is based are:

1. "... as a person grows and matures, his self concept moves from one of dependency... to one one of increasing self-direction."

2. "... as an individual matures, he accumulates an expanding reservoir of experience that cause him to become an increasingly rich resource for learning, and at the same time provides him with a broadening base to which to relate new learnings. Accordingly, in the technology of andragogy, there is a decreasing emphasis on transmittal techniques, and an increasing emphasis on experimental techniques which tap the experiences of the learners and involve them in analyzing their experiences."

3. "... as an individual matures his readiness to learn is decreasingly the product of his biological development and academic pressure, and is increasingly the product of the developmental task required for the performance of his evolving social roles... Andragogy assumes that learners are ready to learn those things they "need" to because of the developmental phases they are approaching in their roles as workers, spouses, parents, organiza-

tional members and leaders, liesure time users, and the like."

4. "The adult ... comes into an educational activity largely because he is experiencing some inadequacy in coping with current life problems. He wants to apply tomorrow what he learns today, so his time perspective is one of immediacy of application. Therefore, he enters into education with a problem-centered orientation to learning." (P. 45-48)

Knowles explains that "The andragogical model is a process model concerned with providing procedures and resources for helping learners acquire information and skills." (p. 102) The seven elements of his model are: "1.) establishing a climate conducive to learning; 2.) creating a mechanism for mutual planning; 3.) diagnosing the needs for learning; 4.) formulating program objectives...which will satisfy these needs; 5.) designing a pattern of learning experiences; 6.) conducting these learning experiences with suitable techniques and materials; and 7.) evaluating the learning outcome and rediagnosing the need." (p. 104) Each of these elements will now be explored.

For Knowles "climate setting is probably the most crucial element of HRD [Human Resource Development]. If the climate is not really conducive to learning, ... then all the elements in the process will be jeopardized. Knowles goes on to explain that a climate conducive to learning will include: 1.) a physical environment that "provides both for animal comforts (temperature, ventilation, comfortable chairs, adequate light, good acoustics, etc.)...

and an adequacy of resources (both material and human)" (p. 103); 2.) a psychological climate that is "safe, caring, accepting, trusting, respectful, and understanding ... [emphasizing] collaboration rather than competitiveness, encouragement of group loyalties, supportive interpersonal relations, and a norm of interactive participation." (p. 107); 3.) an organizational climate which proveides "liberal financial resources" and assigns personnel development a "central role in the achievement of organizational goals" (p. 108); and 4.) an "adequate reward system" (p.108).

In terms of planning, Knowles asserts that "the adult needs to be self-directing" (p. 109). He views this as important because "one of the basic findings of applied behavioral research is that people tend to feel committed to a decision or activity in direct proportion to their participation in or influence on its planning and decision making." (p. 109)

According to Knowles, diagnosis of learning needs involves constructing a model of desired behavior, performance and competencies and "assessing the discrepancy or gaps between the competencies specified in the model and their present level of development by learners." Knowles views the critical element as "the learner's perception of the discrepancy between where he is and where he wants to be" (p.111).

Knowles asserts that the formulation of objectives must be accomplished through mutual negotiation because "the learner is likely to resist unless he freely chooses them as being relevant

to his self-diagnosed needs" (p. 113). Knowles further explains that "the andragogical model involves choosing problem areas that have been identified by the learners through self-diagnostic procedures... and designing units of experiential learning utilizing indicated methods and materials, and arranging them in sequence according to the learner's readiness and aesthetic principles" (p. 114).

The last step of the andragogocial model set forth by Malcolm Knowles is program evaluation. Knowles views evaluation as a five step process composed of: (1) "Reaction evaluation, getting data about how the participants are responding as it takes place"; (2) "learning evaluation, which involves getting data about the principles, facts, and techniques which were acquired by the participants"; (3) "behavioral evaluation requiring data such as observers' reports about actual changes in what the learner does after the training as compared to what he did before"; (4) "results evaluation... including effects on turnover, costs, efficiency, frequency of accidents or grievances or tardiness or accidents, quality control rejections, etc."; and (5) rediagnosing of learning needs. If every learning experience is to lead to further learning ... the very evaluation process should include some provisions for helping the learners re-examine their models of desired competencies and reassess the discrepancies between the model and their newly developed levels of competencies." (p. 121-122)

In essence, Knowles believes that adult learning is based

upon the following principles: adults are motivated to learn as they experience the need; adult education must be an experience based, self-directing process; and individual differences must be accounted for in planning programs. In addition, these programs must be: mutually planned; based on assessed needs; placed in a secure environment; and evaluated so as to assess program effectiveness and enable further learning.

Summary. As is apparent from the above discussion, Malcolm Knowles theory of andragogy and planned change theory complement each other. In both theories, change arises out of a need perceived by the client. Both theories view client involvement, a supportive environment, and program evaluation as crucial components of the change and/or learning process. In addition, both theories view the change and/or learning process as an ongoing cyclical process with the evaluation component serving as the catalyst for re-examining current client status and providing the impetus for re-initiating the change and/or learning process. Taken together, these two theories can begin to lay the foundation upon which a conceptual and theoretical framework for in-service education programs can be built.

Proposed Components of a Comprehensive In-Service Model

As previously discussed, in-service education is part of a lifelong learning continuum, a process of growth and development aimed at producing change in the individual teacher such that his effectiveness in the classroom will be increased. For in-service

education to be effective a variety of offerings employing different techniques must continually be made available to each teacher at his own developmental level. No one in-service offering is able to meet the needs of all teachers. Hence, several proposed in-service models will be examined. Each of these models is comprised of various components which are referred to by different authors as steps, phases, or stages.

Bently (1974) proposes a four step model for in-service education. The first step, identifying needs involves determining; (a) inadequacies or problems, (b) diagnostic requirements, (c) target population, (d) financial and personal resources, and (e) time frame and physical facilities. The second step, development of performance criteria and proficiency models includes; (a) specifications based upon expert opinions, (b) feasibility studies regarding activities or modules, and (c) the refinement of procedural and criterion measures. Step three, program administration involves; (a) selecting the target population, (b)systematic implementation of program activities, and (c) procedures for recycling the program. The fourth and final step, systematic modeling includes; (a) test/retest procedures, (b) opinion samples, (c)observation, (d) feedback to participants, and (e) feedback to the system. According to this model, systematic modeling is interrelated with the other three steps of the model thereby allowing information from each step to impact upon the systematic monitoring step and vice versa. While recognizing the "extensive commitment

of time and expertise implicit in each step (p.263), Bentley believes that this type of systematic approach "avoids the shotgun method of program selection and development that is too often used."

Wood et. al. (1982) propose a five stage model for in-service education. Their model begins with a readiness stage which includes; (a) setting a positive school climate, (b) formulating and adopting goals, (c) evaluating current practices, (d) identifying plans to meet the desired goals, and (e) obtaining leadership support for the proposed programs. The second stage of this model, planning involves; (a) assessing the discrepency between desired goals and actual practice, (b) identifying available resources, (c) identifying participant learning styles, and (d) developing specific objectives based upon learner input. Stage three of this model encompasses the actual training program in which the individual chooses his own objectives and activities and the responsibility for learning is increasingly transferred to the learner. In the fourth stage, implementation, support and recognition is provided for those participants who attempt to implement new behaviors within their classrooms. The final stage, maintenance, is viewed as a systematic program of instructional supervision which monitors newly acquired work behaviors and their implementation in the classroom setting.

Lauffer (1978) proposes a five phase model for in-service education. In phase one, problems are identified and needs and interests assessed. During phase two a structure or network of relations which identifies who should be involved in the development process is built and communication systems to foster involvement are developed. In phase three objectives and intervention strategies are formulated; the feasibility of alternatives is tested; available resources are examined; cost/benefit analysis is performed; and the strategy to be employed is chose. In phase four, program implementation, the program details are delineated and the activities conducted. In phase five, monitoring and evaluation, a feedback system which includes methods for analyzing results is designed. In addition, this phase serves to alter the process by identifying needed adjustments as well as new problems which may require additional program development.

Harris (1980) identified four operating units for an in-service education system. The first unit, the administrative subsystem includes; (a) initiating the process, (b) budgeting, (c) organizing, (d) staffing, (e) coordinating, and (f) communicating. The second subsystem, planning, involves; (a) needs assessment, (b) goal setting, and (c) prioritizing. In the third unit, the design subsystem, strategies and master plans are developed. Program operations, the fourth subsystem, recieves information from each of the other subsystems and translates this data into actual in-service programs.

Morart (1981) sets forth a three phase model. In the first phase, development, problems, needs, opportunities, and requirements are identified; ideas generated; goals and objectives formulated; priorities, procedures and timetables established; strategies and activities developed; data accumulated; resources identified and assembeled; activities refined; and arrangements for activities fianalized. Phase two, implementation includes; (a) initiating activities; (b) obtaining feedback regarding the activities; (c) and modifying and consolidating activities. In the last phase, the review phase, data on the activities and their outcomes is acquired and evaluated, and decisions on future activities are made.

For Altman (1979) the in-service endeavor is comprised of four components. Administration, the first component encompasses: (a) systematic organization which includes formation of an administrative body and overcoming communication and cooperation barriers; and (b) managing the system which includes disseminating pertinent information and monitoring agency commitment. Determining in-service needs, the second component is divided into three elements: (a) motivating participants which includes quality training, active involvement, and tangible reinforcers (i.e. continuing education units, release time, stipends, course credit, etc.); (b) conducting needs assessments; and (c) establishing priorities. Determining the optimal system is the third component of Altman's model. Altman elucidates three elements for this component: (a)

identifying and categorizing delivery systems (i.e. authoratative presentation, tutorial, guided study, demonstration, individual study); (b) matching in-service vehicles to conditions (i.e. nature of the content, audience size, available time, motivation, available resources); and (c) evolving innovative systems by examining the strengths and weaknesses of ongoing programs, determining unmet needs, identifying variables, conditions, and resources relevant to in-service education, analyzing delivery systems into component parts and reorganizing system components into alternative models. The fourth and final component of this model is evaluation and follow-up which includes: (a) monitoring the qualitative features of the system; (b) conducting evaluations; and (c) maintaining the continuity of in-service education.

Mars (1981) proposes a seven step model for in-service education. In the first step, preliminary planning, priorities are set and responsibilities allocated. The second step is conducting a needs assessment. During the third step, goals and objectives are set based upon the data from the first two steps. Step four, task, activity and resource determination involves: (a) performing task analysis; (b) generating alternative strategies; (c) selecting strategies to meet objectives; (d) identifying resources; and (e) devising a timetable. Step five, program implementation includes: (a) conducting the in-service activities; (b) evaluating the process; and (c) modifying subsequent in-service sessions. Step six, outcome evaluation addresses measuring obtained objectives as well as de-

termining any unintended consequences. Step seven, recycle, keeps the process in existence by developing additional programs to meet continuing goals as well as new goals which arise.

While all of the above models utilize different major components, many commonalities exist. First, all models advocate some form of needs assessment upon which to build the program. Secondly, goals and objectives are formulated. Thirdly, program implementation occurs. Fourthly, an evaluation takes place. While these components are present in all models, there are other elements which appear in several of the above models and which, for the purposes of this paper are important to the development of a comprehensive in-service program. These are: (a) determination of existing resources; (b) determination of optimal delivery systems; (c) determination of an incentive structure; (d) program development; and (e) restructuring. These components are deemed especially desirable in light of the difficulties associated with providing in-service education to special education teachers in rural areas. This topic will be expanded upon in the next section.

The proposed model (fig. 1) is both circular and cyclical. It begins with a needs assessment aimed at identifying needed information, identifying felt needs, and identifying interests. Through this process, the teachers who are to be participants of designed programs are assured that their needs and interests will be considered in the planning of in-service programs.

In the second step of this model, goal formulation, needs are translated into concerns, These concerns are then prioritized with goals and objectives formulation based on prioritized concerns

thereby further insuring in-service programs based on the perceived needs of future program participants.

In the third step, resource determination, financial, material, and human resources are identified. This step is deemed especially important in rural areas where lack of personnel to conduct the desired program may prove to be an insurmountable obstacle to the provision of desired programs. In addition, lack of available financial and material resources may further hamper program effectiveness. Hence this model advocates a realistic determination of all available resources prior to program development to insure that the necessary resources will be available to conduct the desired activities.

Step four, development of optimal delivery systems, includes identifying opportunities as well as learning styles. This step is deemed essential because teachers operate at different stages of development and have different learning styles. For in-service to be effective, it must take the teacher from his/her own development level, and instruct him/her in an appropriate learning style based upon individual needs and abilities.

Step five, determination of incentive structure, involves: the development of a positive climate which includes attention to the physical environment, the emotional climate, and scheduling difficulties; and arranging for motivators such as college credit, release time to attend in-service programs, and stipends for program participants. This step is deemed especially important in

the provision of in-service programs to special education teachers in rural areas where there is often little opportunity or incentive to attend in-service programs.

Step six, program development includes: development of appropriate intervention strategies based upon assessed needs, available resources, available incentives, and participant learning style; and assessment of strategy feasibility which is important in rural areas which have sparse populations, geographical barriers, and a lack of readily available resources.

Step seven, program implementations involves the actual scheduling and conducting of in-service activities.

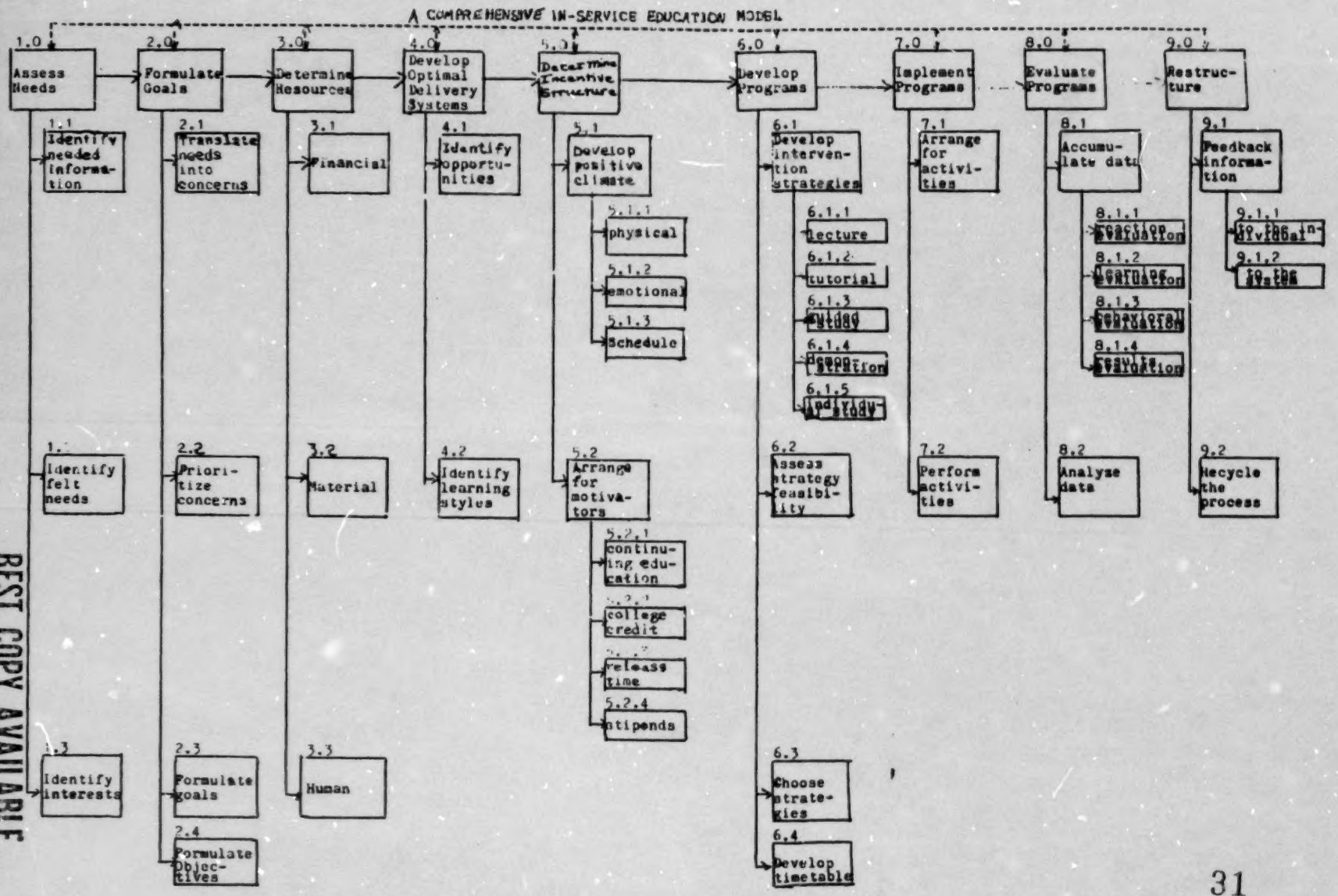
Step eight, program evaluation, involves data collection and analysis. A comprehensive evalustion program including; reaction evaluation, learning evaluation, behavioral evaluation, and results evaluation is conducted to determine program strengths and weaknesses as well as program effectiveness.

In the final step, restructuring, the information obtained through the evaluation process is imparted to program participants, instructors, and planners. This information is used to alter the existing program to better meet participant needs, as well as to aid in the planning of future in-service activities. Hence, with the aid of the evaluation data, the entire process begins again.

Thus, the proposed model is both circular and cyclical. It remains flexible to meet the diverse needs of the teachers to be served. Therefore, the suggested components remain general with

the specifics to be filled in according to situational demands. The position of this paper is that each component of the proposed in-service model is necessary for the development of a comprehensive in-service program. Without the designated components, it is hypothesized that the effectiveness of the in-service program will be diminished, Hence, each of the ensuing in-service approaches will be examined and evaluated in terms of the proposed model.

Figure 1



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SECTION III: DIFFICULTIES ASSOCIATED WITH THE PROVISION OF IN-SERVICE EDUCATION IN RURAL AREAS

The literature regarding provision of in-service education programs to special education teachers in rural areas reveals several major difficulties including: insufficient funding; lack of program relevance; absence of incentives to participate; scheduling difficulties; distance; insufficient teacher motivation; inadequate follow up; absence of evaluation; and feelings of threat which may be experienced by participants as a result of the in-service program. Each of these difficulties will be explored.

Funding

With school district enrollment declining and the faith of the public in the nation's educational system waning, school district budgets are under close scrutiny and severe constraints. In the allocation of resources, in-service education often does poorly. For special education, a limited amount of money still exists under the provisions of PL94-142. In rural areas, in-service programs prove expensive due to the lack of concentrated numbers of teachers and the expense involved in bringing experts to remote areas (Burdin and Poliakoff, 1973). Hence, the difficulties associated with funding in-service education programs provide no ready solution.

Relevance

The problem of lack of relevance could be addressed through

the use of comprehensive needs assessment. A needs assessment requires a commitment from an individual at the administrative level. While many urban school districts have an in-service coordinator, this position is almost non-existant in rural areas. The special education director, if one exists, is often involved with numerous other administrative functions and lacks the time to devote to in-service programs (Jones, 1976). One advantage associated with needs assessment is that when teachers are involved in the planning process, their commitment to the ensuing program rises and greater relevance is achieved (Westby-Gibson, 1971; Lavin, 1975; Swick and Henly, 1975; Brandt and Olson, 1980).

Incentives

Rubin (1971) believes that the only incentive sometimes offered participants of local in-service programs is certification renewal credit. College credit, which is usually necessary for pay increases, is generally offered only when the program is sponsored by a college or university. Even when college credit is available, the cost is often prohibitive. Harty and Henry (1981) assert that allowing credit toward a pay increase for locally sponsored workshops would be an incentive for teachers to participate in these programs.

Scheduling

Scheduling problems present another impediment to the provision of in-service programs in rural areas. Holding in-service

programs after school presents programs to teachers who, because of difficulties encountered during the school day, may be unreceptive to new ideas. Saturday workshops may be unable to hold the attention of the teacher who would rather be at home with his family. Burdin and Poliakoff (1973) suggest the use of substitute teachers as a means of providing release time during the normal school day for teachers to participate in in-service programs. Burdin and Poliakoff assert that during the hours of the normal school day teachers are most receptive to new materials. For special education teachers, PL94-142 funds are available to cover the cost of substitutes used in this manner. If the special education teacher is working in a resource program, the students could be retained in the regular classroom thereby providing the special education teacher with release time to attend relevant in-service programs. Another alternative for providing release time to teachers was proposed by Isenberg (1954). Isenberg proposed setting aside one or more days at the beginning, middle, or end of the school year as a means of alleviating the difficulties associated with scheduling in-service programs. Problems exist when implementing Isenberg's proposal. At the beginning of the school year, teachers are immersed in setting up their classroom. At the end of the school year, teachers are tired and desire to clean up. In the middle of the school year, one encounters the difficulties associated with isolated presentations which often

lack adequate follow up. An alternative to Isenberg's proposal could be to set aside several half days throughout the year, or even an hour a week, to discuss relevant topics.

Distance

Distance presents a major difficulty in rural areas as it can prevent convenient attendance. Weather conditions can further compound this difficulty. Moreover, enthusiasm can be dampened by a long drive. Holding workshops at the individual school would seem a ready solution. However, in the case of special education, there is often only one teacher per school. Providing a school car or reimbursing travel expenses would be incentives aimed at alleviating these difficulties. Devising car pool routes so those who drive the furthest meet others along the route is another alternative. Providing refreshments, or even dinner, is an additional incentive which could also allow for a brief relaxztion period prior to commencing the program.

Motivation

If the incentives to participate in in-service programs were sufficient, and if programs were based upon teacher's perceived needs, then motivation would cease to be a problem because, as stated previously, adults are motivated to learn as they experience the need.

Follow up and Evaluation

Edelfelt and Johnson (1975) indicate that providing adequate

follow up would allow in-service presenters and participants to evaluate the program's effectiveness and applicability. This information would then be available to aid in the improvement of future in-service offerings.

Threat

To eliminate feelings of threat sometimes experienced by participants as a result of in-service programs, these programs should take place in a non-judgemental atmosphere where the teacher need not feel his job might be threatened should he disagree with the ideas presented or be unable to implement the presented suggestions in his classroom.

SECTION IV: IN-SERVICE APPROACHES

In this section, a variety of approaches for providing in-service education programs to special education teachers in rural areas will be explored. These programs can be classified into six major catagories: college and university programs, state and regional programs, school based programs, teacher center programs, teacher exchanges, and consultant programs. Each of these catagories will be explored and evaluated in terms of the difficulties associated with in-service education outlined in section three as well as adherence to the components of the inservice model proposed in section two.

College and University Programs

College level coursework. Traditionally, in-service education has been provided in the college or university setting (Chernow and Chernow, 1977). According to a publication by the National School Public Relations Association (1975), these programs consist largely of college coursework presented by professors who are far removed from the actual public school experience. Moreover, as Edelfelt and Johnson (1975) declare, school districts and teacher preparation institutions have failed to develop collaborative relationships for the comprehensive planning of professional development. Hence, lack of relevance is a major difficulty associated with college level coursework. In rural areas, this lack of relevance is further compounded as the university often has no direct contact with the life of the rural community (UNESCO, 1974). Schrag et. al. (1975)

supports this notion. They assert that the further the community from the rural area, the more infrequent the provision of extension courses, and the more limited the topics addressed.

While extension courses begin to deal with the difficulty associated with location, Burdin and Poliakoff (1973) believe that these types of courses do not alleviate transportation problems. Hence distance remains an impediment which is not overcome by extension courses.

College level credit is an important consideration for rural special education teachers many of whom are in need of proper certification. In addition, college credit may lead to an increase in salary. Hence college credit is a definite advantage of this type of in-service program.

In terms of funding, college courses generally require some form of fee payment. These payments range from moderate for state college programs to extreme for certain private universities. Although some school districts may pay for college coursework, this is not the typical situation. Consequently, the financial responbility rests with the individual teacher.

Scheduling presents still another difficulty associated with college coursework. Genrally, these courses take place after the close of the school school day. When coupled with the distance problem, scheduling becomes a major limitation for this type of program. Although courses may at times be offered on a Saturday,

the traditional course, running from twelve to fifteen weeks, requires a major commitment.

The only evaluation associated with college level coursework occurs via pencil and paper surveys at the end of the course. While these surveys may be useful to the university as part of their own evaluation program, they fail to provide feedback to those teachers who have participated in the course.

In terms of the proposed in-service model, college level courses are rarely based upon needs assessment. Instead, they are based upon state certification and university degree requirements. College courses do have specified goals and objectives. However, these goals are rarely based upon the participants' needs. College courses do provide both human and material resources making this a strength of these programs. Regarding incentives, college credit and subsequent pay increases do exist.

While traditional college or university coursework does have several of the components of a comprehensive in-service education program, it lacks others notably needs assessment and restructuring. In addition, these courses do not alleviate many of the difficulties associated with in-service education for special education teachers in rural areas. Despite these difficulties, the dominance of the traditional college level course as a means of providing in-service education to teachers persists primarily due to the desirability of college credit. Hence, many alternative approaches

to in-service education rely on some sort of affiliation with an institution of higher learning.

Teleconference. Schrag et. al. (1979) propose the use of teleconferencing as a means of providing college level courses to rural communities. In this method, a group of people gather at a central location, listen to, and sometimes view a professor who is presenting a lecture on the university campus. Schrag et. al. believe that the combined audio/video approach is preferable to broadcasting a professor who is lecturing to an unseen audience. Strengths of this approach include: the ability to hear the questions and answers of the university class; the ability to participate through two way communication channels; contact with other professionals; and the alleviation of the distance problem. Of course, difficulties may arise due to technological failures as well as classroom noise which may interfere with the clarity of reception.

Extension courses. Another alternative is to identify local people qualified to teach university courses and for the university to contract with these individuals. This arrangement overcomes transportation difficulties as well as the lack of familiarity of the professor with the rural community. In addition, use of local personnel increases the opportunity for program continuity and feedback. Possible deterrants to this approach include; lack of qualified personnel to teach the desired courses, the possible un-

willingness of local people to teach these courses, and the reluctance of some universities to contract with local personnel.

In terms of the proposed in-service model, these courses generally fail to be based upon a comprehensive needs assessment although a survey may be carried out to assess adequate interest in specified courses. Again, goals are university based rather than locally designed with the only motivator course credit. This arrangement fails to enhance program evaluation or restructuring which in turn leads to the difficulties discussed previously in relation to traditional college coursework.

Correspondence Courses. A "traditional approach" that is gaining in popularity as a means of providing college coursework to individuals residing in rural areas is the self-paced training packet or correspondence course (AASA,1981; Townseld, 1973). This approach provides the learner with a packet of materials including assignments to complete and return for correction. Although this plan allows for the individualization of instruction and alleviates logistical and scheduling difficulties, the amount of time required to resolve difficulties and the lack of contact with the professor and other students are major drawbacks. While the time required to resolve difficulties could be alleviated through the use of toll free telephone numbers, which currently exist at many universities, the more important problem of inadequate contact with other professionals remains. In addition, these pro-

grams may lack relevance, offer few incentives, and lack follow-up.

In terms of the proposed model, correspondence courses which are prodesigned adhere little if at all to the model proposed in section two.

Independent Studies. The use of independent studies under the auspices of university personnel provides a similar approach to that of correspondence courses. However, it does offer some improvement as it allows for a negotiated program of study thereby increasing relevance for the learner, involving the learner in the planning process, and allowing for several face-to-face meetings within the course of the semester. If scheduling and distance posed extreme difficulty in arranging personal meetings, telephone conversations could again substitute. A major obstacle in enacting this approach is the dirth of scholarly publications readily available in the rural community. Consequently, the teacher may be forced to rely upon university facilities for materials. This can cause further difficulties especially if the desired publications could not be checked out of the library.

In terms of the suggested model, this arrangement does allow for needs assessment and the identification of goals based upon felt needs. It does not however provide adequate resources. Once again, university credit is the only incentive. Program evaluation as well as the restructuring process may or may not occur under this system. This approach therefore fails to meet the

requirements for a comprehensive in-service program.

Television courses. Television courses which provide packets of matrials and assignments which correspond to television broadcasts has been demonstrated by Helge (1979) to be a successful alternative for providing in-service programs to the isolated special education teacher. Helge proposes that the teacher watch the program, do the assignments, and mail them in for correction. The assignment is promptly corrected and returned. In some courses, participants would be required to attend one or more Saturday sessions. However, distance may impede the efficacy of Saturday meetings. Additionally, in some remote areas, the desired recipients may be unable to receive the required channel on their home television.

This difficulty has been successfully addressed by the Appalachian and Rocky Mountain satellite programs which transmit pretaped broadcasts via satellite. In some situations, live sessions were broadcast allowing students to view classroom interaction. Some teachers were also able to communicate directly with the instructor through VHF radio or teletype satellite. This interaction was deemed advantageous by course participants. In the regular television broadcast, the Saturday session could be supplemented by the addition of toll free telephone numbers to increase the contact which was experienced as beneficial by participants of the satellite program who had access to VHF radio or teletype.

Another alternative which addresses the isolation factor for both satellite and television viewers would be for several teachers in the same or neighboring communities to take the course simultaneously. These teachers could then form a study group to discuss the telecasts and any difficulties which they may be experiencing.

While this approach can be effective, difficulties remain including: lack of relevance, time of broadcast; lack of follow-up; and inadequate evaluation. When compared with the proposed model, these programs are once again lacking as they are not based upon assessed needs; resources may not be available for additional study; the only incentive is college credit; and program evaluation and restructuring remain elusive.

Minicourses. Another alternative to the traditional college course is for the university to offer mini-courses at certain times throughout the year. These mini-courses consist of one week university based workshops with participants living on campus for the duration of the program. Mini-courses could be offered during school vacation so as not to disrupt regular school programs, or as Jordan (1966) suggests, pre-service teachers and doctoral candidates could be used as substitute teachers during these courses thereby allowing practicing teachers to attend courses while school is in session. Jordan's suggestion has the additional benefit of providing an extensive rural experience to pre-service teachers and doctoral candidates who would thus gain first-hand knowledge regarding the needs of rural school districts.

While mini-courses do address the difficulties associated with distance and scheduling, they do nothing to assure relevance for participants. In addition, they provide little improvement in terms of motivation and follow-up . Additional limitations associated with these programs include the difficulty associated with having to absent oneself from home for an extended period of time as well as the prolonged absence of the regular teacher from the classroom which could prove detrimental to student learning.

In terms of the proferred model, mini-courses do not differ substantially from traditional college courses. Thus, courses are genrally not based on needs assessments with goals related to the assessed needs. This plan does consider resources as well as providing an alternate delivery system. Motivators such as release time and course credit do exist. In addition, the opportunity to develop a positive climate and the creation of a network of rural teachers may be fostered by the intensity of the program. Once again evaluation is generally used solely for university purposes, and the restructuring process is often missing.

Mobile classrooms. The mobile classroom described by the National Rural Research Personnel Preparation Project (NRP, 1980) provides another approach be which the university can serve the rural community. The mobile classroom outfitted with a wealth of materials and packets for self-directed learning arrives in town for a ten week stay. University professors arrive with the unit and lecture on topics previously determined through local needs

assessment. The professors then return to the university, but remain available for consultation via toll free telephone numbers. The professors return to the rural community at the end of the ten week session and provide follow-up and further lectures to those interested. While in town, the unit is open seven days a week to all members of the community and materials are available for check out.

A major drawback associated with this method is funding. To outfit a mobile unit is expensive, and the cost of travel continues to be expensive. Lack of relevance is addressed through programs based on previously conducted needs assessments. Time is eliminated as a factor as the mobile unit is open continuously during its stay in town. Logistical problems are alleviated by the mobile unit coming to the community. Follow-up is provided at the end of the ten week session. In addition, the mobile unit returns on a yearly basis providing additional follow-up. This approach also serves to bring together the university and the rural community.

In terms of the proposed model, the mobile unit bases courses on needs assessment; provides resources; allows a variety of presentation options; and provides the opportunity to develop a supportive environment. Course credit is available as a motivator as well as the opportunity to engage in any or all activities on a voluntary basis. Evaluation per se is not addressed in the description of this model offered by the NRP. However, it is appaent that evaluation could occur, and that the restructuring

process is possible with recycling occuring on a yearly basis. Thus, this approach adheres to the model described in section two. The major drawback of the mobile classroom is the expense involved, which given current financial constraints makes it unlikely that this model will be widely adopted as a vehicle for the provision of in-service education to special education teachers in rural areas.

Satellite Teacher Training Sites. An alternative to the UNESCO (1974) proposal to sitauate teacher training institutions in rural areas was proposed by Jones (1976, p.8). Jones advocates the establishment of satellite teacher training sites staffed by local personnel who would supply supervision and instruction for in-service teachers in conjunction with a college or university. According to this plan, work undertaken at the satellite site would consist of a practicum experience along with limited course-work designed to meet in-service training needs while satisfying state certification requirements. The program of study would be agreed upon by the teacher, the local supervisor, and a university representative.

Advantages of this arrangement include: trained supervisors familiar with the rural environment which would enhance relevance; movement toward certification which would serve as an incentive; and programs located in the rural environment which would aid logistical problems and even begin to address the previously discussed scheduling difficulties. Situation of training sites

in rural areas may also enable follow-up to occur due to the continued availability of local resource personnel. Major disadvantages associated with satellite teacher training sites appear to be: the need for a commitment to rural education on the part of the university; and the need for a working cooperative relationship between the university and rural school districts which is currently lacking.

In terms of the designated model, the mutual program planning recommended in this approach would serve as a needs assessment for the proposed program. This in turn would enable the formulation of goals based upon identified needs. However, the university requirements may serve to limit the pursuit of individual goals and constrain course offerings. As discussed previously, personnel availability could pose problems, however, given the combination of university, school, and community resources along with the location of a training site in a rural area, the availability of resources, both material and human, could be improved. In terms of delivery systems, the satellite site provides for a variety of alternative delivery modes including practicum experiences, demonstrations, lectures, and self-study. Since the program is based upon mutually acceptable goals and action plans, motivation should be increased. This collaborative arrangement should serve to create the type of positive environment discussed previously. For motivators, once more we have college credit. Individual programs of study are designed and implemented in this arrangement. While

program evaluation is not speciffically addressed in the outline provided by Jones, it would seem that program evaluation, both university oriented opinion samples as well as observation of the practicum experience would serve in this area. Whether this data would then be analyzed and used to restructure the program is not addressed. However, were data analysis performed and the feedback cycle implemented, then the process would be easily recycled in the renegotiation of the continuing program of study. Hence, the satellite teacher training program has the potential to fulfill the proposed model.

Teacher Training Interns. A second alternative to situating training colleges in rural areas is the use of teacher traing interns who would come out from the university to supply in-service programs to the rural community while serving as a link to the university's facilities, materials, and certification ability. The teacher training intern could be used to provide coursework and practicum opportunities as well as aid in program planning. In return, the intern would receive credit toward a graduate degree.

Strengths associated with this plan include: the presence of the intern in the rural environment which would aid in addressing the issues of scheduling and relevance; cooperative planning between the university and the local education agency which would strengthen resource availability while also enhancing relevance; regional direction which would again enhance relevance and enable

follow up at the local level; and an extended continuous program which would provide support and continuity for the programs offered. Difficulties include: the establishment of a working relationship between the university and the local education agency; the extended commitment required from the intern; and the possibility that the intern will be viewed as just a student thereby hampering potential effectiveness.

In terms of the proposed in-service model, needs assessment could be performed with goals predicated upon assessed needs as a part of the planning process. Resources would be provided through the university. The intern would be able to determine optimal delivery systems and establish a positive climate. College credit would be available to serve as a motivator. Programs would be developed, implemented, and could easily be evaluated as part of program evaluation, intern evaluation, and learner evaluation, all of which would prove an integral part of the internship program. Data would have to be analyzed and the information fed back to the system. In addition, the continuous use of interns would serve to recycle the process albeit with different personnel.

State and Regional Programs

Another "traditional" approach which according to Jones (1976) and Schrag et. al. (1979) is regaining popularity as a means of providing in-service programs to rural special education teachers is the state sponsored and/or funded conference and special study

institute. These programs generally consist of intensive multi-day workshops and focus on specified topics. Advantages associated with this approach include: bringing together a large group of educators from different locales to discuss common problems; the reduction of local fiscal problem due to state subsidy for a specified number of participants from each area; and the incentives of release time, and a conference taking place in a luxorious atmosphere. Limitations encompass: participation mainly by regional consultants as subsidies do not include the cost of substitute teachers which may make school districts unwilling to release teachers to attend these programs; for statewide programs, the chosen topics may hold limited relevance for rural personnel; and lack of follow up. While regional programs may aid in focusing on issues of concern to the rural area, unless provision is made for classroom teachers to participate, it is doubtful that this approach will prove effective as a means of providing in-service education to special education teachers in rural areas.

In terms of the suggested model, state and regional programs are often based on perceived rather than assessed needs. Adequate resources are provided by the state with the exception of subsidies for substitutes discussed earlier. Incentives, which have been discussed previously do exist. The setting for these conferences usually aids in setting a positive climate. Program evalu-

ation does occur. Although this information is rarely related to participants, it is used to help plan future state and regional programs. Hence, this approach fails to adhere to the proferred in-service program.

School Based Programs

According to Chernow and Chernow (1975) the current trend is to provide in-service programs within the public school setting. Unfortunately, many of these programs fail to meet the needs of the teachers whom they purport to serve. Edelfelt and Johnson (1975) see many of the current in-service efforts as consisting of weak haphazard programs which do not attempt to help teachers improve their instructional skills or become more adept at planning and organizing curriculum. These in-service programs often consist of a single presentation which may be ineffectual as well as threatening to some teachers (Helge, 1979). Generally the mode of presentation consists of a lecture at the end of the school day. According to Brandt and Olson (1980) most teachers rate these programs as fair to poor. In addition, rural areas experience frequent staff turnover which necessitates that in-service programs continually address new teachers which, according to Smitter (1975), further hinders continuity.

In terms of the proferred model, school based programs should be based upon assessed needs translated into goals. Unfortunately, this rarely occurs. Resources are limited. A limited number of

delivery systems are incorporated. Little incentive is provided to teachers. Program evaluation is haphazard at best, and restructuring often fails to occur. Hence, while school based programs have the potential to incorporate all steps of the proposed in-service model, they have fallen short in the execution and have thus not proved effective in providing in-service education to special education teachers in rural areas.

Teacher Center Programs

The mission of the teacher center is to provide teachers with in-service programs based upon assessed needs. Harty and Henry (1980) describe the focus of the teacher center as having hands on experience and practical application. They describe the teacher center as a vehicle for bringing teacher's together to work on problems of mutual concern. Nash (1980) advocates the use of mobile vans by teacher centers in rural areas to allow more teachers access to the center's materials.

The teacher center is usually staffed by teachers and provides a variety of programs as well as a non-threatening atmosphere in which teachers can meet and explore different methods and materials. Certification renewal credit is usually offered for teacher center programs. Difficulties associated with teacher centers include: the center is only as good as its leaders; many programs take place during the school day or immediately after school and release time is generally not available for participation in teacher center programs; even when a mobile van is

available, the majority of programs are center based leading to distance related problems; the mobile van travels to a different school each day which may hamper teacher usage as the van is generally not available before and after school; and the mobile van often lacks many of the center based resources. While alleviating some of the difficulties associated with providing in-service programs in rural areas, barriers exist which appear to hamper the effectiveness of the rural teacher center.

In terms of the suggested model, programs are based upon assessed needs, a variety of resources are available, alternative delivery systems may be employed, efforts are made to establish a pleasant atmosphere, certification renewal credit is available, and evaluation and restructuring do occur. Hence, teacher centers do adhere to the proferred model for in-service programs.

Teacher Exchanges

Lewis (1971) suggests a form of in-service based upon teacher visitation. According to this approach, teachers visit other classrooms in order to gain exposure to a variety of instructional methods and materials. Following a period of observation, the teachers discuss their perceptions of what was occuring in the classroom. This approach is based upon the philosophy that teachers learn through observation and modeling, and that peer discussion provides an effective means of professional growth.

Another form of teacher exchange was suggested by Everett (1949). According to this approach, special education teachers meet regionally on a regular basis to provide a support system for the isolated professional. The teachers provide their own format, however, they generally focus on issues of common concern and help generate solutions for actual problems encountered by their colleagues.

Advantages of teacher exchanges include: low cost, a non-threatening atmoshpere; a support system; and a chance to learn from each other. Obstacles include: difficulty establishing mutually convenient meeting times; a possible lack of expertise to solve problems encountered; and the possibility that the sessions will become purely social exchanges. While teacher exchanges do have merits, it is doubtful that these programs in isolation can serve as an effective means of providing in-service education to the special education teacher in rural areas.

In terms of the proposed model, teacher exchanges are informal. Hence, programs address current concerns and are not based on felt needs. The issues raised are dealt with at the moment, but may remain unresolved with lack of adequate follow up. Resources in teacher exchanges are limited to participants and the resources of their individual school districts. While a positive climate exists, alternative incentives are generally lacking. Programs are rarely planned and implemented. Evaluation does not occur, hence the restructuring process lacks information

needed to recycle the process.

Consultant Models

The use of consulants provides another means of addressing the issue of in-service education for special education teachers in rural areas. Jordan (1966) states that in order to be effective, the rural specialist needs to be trained for the in-service function. Lucio (1967) believes that for a consultant to be effective he must understand the ways in which teachers learn and change. Helge (1980) views the ability of the consultant to provide both formal and in-formal in-service as a major advantage of this model.

Formal in-service is generally provided by regional or school based workshops. According to Gearhardt (1967), the major difference between these programs and the school based programs is the use of a regional or consortium model for program provision and an emphasis on active rather than passive programming.

Informal in-service can serve several functions. Collins (1970) suggests the use of consultants to promote teacher effectiveness by being available for informal conferences and by modeling alternative methods of instruction. In this manner, the consultant can guide the teacher through problem solving strategies based on actual experiences as well as provide feedback, follow up, and support for change. Teacher support can be provided through; listening, clarifying, and encouraging. Consultants can also observe and analyze classroom performance as a means of effecting teacher

change. Codwell (1979) advocates the use of micro teaching. He suggests that through the use of videotape recordings, the consultant and the teacher can simultaneously view the performance, discuss what is occuring in the classroom, and devise strategies for change. This model has been proven effective in rural areas as a means of encouraging dialogue between teacher and consultant and ultimately effecting change in the classroom.

The Southwest Education Development Laboratory in a 1980 publication focused upon the use of consultants as a means of training teachers to be their own resources. By opening communication channels, aiding teachers in discovering creative methods of problem solving, and putting teachers in contact with resources which would remain available, the teacher should become less dependent on the consultant and more self-sufficient as regards professional development. Rubin (1971) suggests that once teachers were trained, they could be taught to serve as trainers for other teachers in their own or neighboring school districts. This trainer of trainers model could prove to be extremely important in isolated areas.

Several states with largely rural populations have adopted the consultant model. The Arizona State Department of Education coordinates consultant services and pays all costs including the cost of substitute teachers when necessary. In Vermont, consultants are hired as adjunct faculty of the state university and are authorized to conduct training for college credit.

Advantages associated with the consultant model include: flexibility of scheduling; school based programs; individualization; a variety of services; and a non-threatening atmosphere. Difficulties exist due to: lack of properly trained personnel; misperception of the consultant role; and distrust which may develop if the consultant is viewed as an outsider. Despite the possible impediments, the advantages associated with the consultant model seem to outweigh the limitations and appear to make it a viable alternative for providing in-service to special education teachers in rural areas.

In terms of the suggested model, consultant programs should be based upon assessed needs with goals based upon these needs. Consultant models provide an array of resources and delivery systems from which to choose. It is possible to develop a range of motivators for in-service programs. In addition, the consultant is able to evaluate programs, feedback the information, and recycle the process. Thus the consultant approach adheres to the model presented for in-service education.

SUMMARY AND RECOMMENDATIONS

In this paper, various approaches to providing in-service education to special education teachers in rural areas have been discussed. An appraisal of the current state of the art has been conducted along with an exploration of alternatives. In terms of the proposed in-service model, five approaches; the mobile classroom, the satellite teacher training site, teacher training interns, school based programs, teacher centers, and consultant models appear to have the potential to adhere to the suggested model. In this section, the limitations of these models will be compared, and a recommendation made as to the most viable means of providing in-service to special education teachers in rural areas.

One limitation associated with the mobile classroom which is not associated with the other models is the transient nature of this arrangement. The mobile classroom remains in town for a comparatively short length of time. It then departs. Although the unit does eventually return, usually on a yearly basis, this type of arrangement hampers program continuity. As stated previously, the major drawback associated with mobile classrooms is the cost associated with outfitting these units as well as the continued high cost of transportation expenses. Hence, given current fiscal constraints, it appears unlikely that the mobile classroom will be adopted as a vehicle for providing in-service education to special education teachers in rural areas.

Satellite teacher training sites require a commitment to rural education and the need for a working cooperative relationship between the university and the local school district. While this relationship does exist in a few areas (notably Provo, Utah which has such a program for pre-service teachers) it is generally the exception rather than the rule. Hence, lack of working cooperative relationships could hamper the initiation of such programs. In addition, the structure of of the university program could serve to limit offerings to basic requirements rather than offering programs that meet the needs of the individual participants. Still another consideration is whom the university contracts with at the local level. If the local instructor is also the participants immediate work supervisor, feelings of threat could be heightened as the participant might feel that his job would be threatened should he be unable to implement the presented program in his classroom. Thus, the limitations of this program may hamper its effectiveness as a means of providing in-service to special education teachers in rural areas.

Teacher training interns also require a working cooperative relationship between the university and the local school district. Moreover, an extended commitment is required from the individual involved in the internship program. The effectiveness of the intern may be hampered by his or her student status. In addition, this model would ensure turnover on a regular basis which could hamper

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continuity, especially if an intern were unavailable in a given area for an extended period of time. Hence, this approach appears to have major limitations in terms of meeting the on going in-service needs of special education teachers in rural areas.

The major limitation of teacher centers revolve around scheduling and distance difficulties. Even when teacher centers employ mobile vans as a means of bringing teacher center materials to remote rural regions, as suggested by Nash (1974), these limitations persist because a majority of programs remain center based, and the van is in a given district for only a few days during the school year.

Although school based programs have the potential to fulfill the proposed in-service model, logistical problems make this model inappropriate to meet the needs of special education teachers in rural areas who because of low population density may find themselves the only special education teacher within a given geographical area.

Consultant models may encounter difficulty due to lack of adequately trained personnel, misperception of the consultant role, and distrust which may develop if the consultant is viewed as an outsider. Despite these limitations, the consultant model appears to have strengths which outweigh the weaknesses of this model. The rationale behind this position is the flexibility inherent in the consultant model, which allows meetings to occur at mutually agreeable times. The recommended model would employ people who had

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received special training and preparation for the in-service task. These consultants, as recommended by Burdin and Poliakoff (1973), would come from the ranks of successful classroom or college teachers. The training center would also serve as a home base for the consultant once he is assigned to the field. This continued affiliation would enable the consultant to grant college credit for the individually designed program. In addition, if the consultant were unable to answer specific questions or meet specific teacher needs, he or she would be able to marshall the forces of the training institute to locate answers or necessary resources. According to this model, the consultant would conduct needs assessments. Based upon the perceived needs, the consultant and the individual teacher would devise a mutually agreeable program. This program would draw upon a variety of approaches with the consultant serving diverse roles based upon individual needs. Once implemented, a program would be subject to ongoing evaluation, and restructuring when necessary. The consultant would not be involved in hiring and firing in an attempt to eliminate any threat or fear on the part of the teacher and further enabling open communication and problem solving strategies to develop. In terms of cost, Burdin and Poliakoff (1973) assess a cost of $200. per teacher per year to this model. They assert that if the consultant were also to supervise student teachers, the cost could be reduced. Even with inflation, the cost of consultant services should prove reasonable, and may be paid for in part of PL94-142 monies. Hence,

the proposed consultant model,with its flexibility and reasonable cost appears to be the most viable means of providing in-service education to special education teachers in rural areas.

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